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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,190	10/06/2005	Claude Brun	FR-AM 1947 NP	8420
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ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222				
EXAMINER				
STALDER, MELISSA A				
ART UNIT		PAPER NUMBER		
4162				
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07/09/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/552,190

**Applicant(s)**

BRUN ET AL.

**Examiner**

MELISSA STALDER

**Art Unit**

4162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 12-23-05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 4, 5, 6, 7, 9, 10, 11, and 12 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 recites the limitation "bringing it into contact" in line 2. There is insufficient antecedent basis for this limitation in the claim. Please specify how you would like the limitation "it" defined.

4. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of "and/or" in line 2 makes the limitation of the basis for the hydrotreating catalyst indefinite.

5. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. On line "c)" of the claim, applicant does not specify what is brought into contact with hydrogen.

6. Claim 8 recites the limitation "the addition" in line 2. There is insufficient antecedent basis for this limitation in the claim.

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7. Regarding claim 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
8. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In line 2, the range "preferably of 1 to 3%" is a limitation of a range within a range. The use of these two ranges renders the claim indefinite.
9. Claim 10 recites the limitation "the product" in line 2. There is insufficient antecedent basis for this limitation in the claim.
10. Claim 11 recites the limitation "the operation" in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Brun (US 6,325,920). Brun teaches a process for the sulphurization of hydrotreating catalysts where a hydrotreating catalyst made of molybdenum, tungsten, nickel or cobalt in the oxide form on a porous inorganic support. Brun teaches the use of an ester of orthophthalic acid with the general formula in claim 1 of the application where R<sup>1</sup> and R<sup>2</sup> can be identical or differently and represent

an alkyl, cycloalkyl, aryl, alkylaryl, or arylalkyl radical where the radical can comprise 1 to 18 carbon atoms and optionally one or more heteroatoms.

Regarding claims 3-4, Brun teaches that the preferred orthophthalic acid esters are those in which the  $R^1$  and  $R^2$  symbols represent identical alkyl radicals comprising 1 to 8 carbon atoms and more particularly, can be diethyl orthophthalate.

Regarding claims 7-8, Brun teaches that sulphurization of a catalyst consists in treating the catalyst with hydrogen sulphide mixed with hydrogen. The sulphurizing agent is a liquid feedstock with a sulphur compound such as carbon disulphide, thiophene, dialkyl disulphides, or diaryl disulphides.

Regarding claim 9, Brun teaches that DMDS has been recommended for the sulphurization of catalysts and Brun teaches that DMDS is used at 2% by weight in a feedstock.

Regarding claims 10 and 12, Brun teaches that sulphurization of the catalyst is carried out in a hydrotreating reactor in the presence of hydrogen. This process is known as "in situ" where the sulphur compounds are used in the presence of hydrogen.

Regarding claim 11, Brun teaches a sulphurization step can be first carried out in the absence of hydrogen. Brun teaches an "ex situ" process where the catalyst is pre-activated in the absence of hydrogen outside the refinery after having been impregnated with a sulphurizing agent. Then the sulphurization is completed in the hydrotreating reactor in the presence of hydrogen.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brun (US 6,325,920) in view of Dufresne (US 6,077,803). Brun teaches the sulphurization of hydrotreating catalysts but does not teach the dissolving the ester brought into contact with the catalyst in toluene. Dufresne teaches that the before sulphurization, the catalyst can be treated with a stabilizing agent such as an ester which may be diluted in solvent (col. 3, lines 37-63). A well known solvent used to dissolve organic compounds is toluene. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the treatment of the catalyst with Brun and the use of the stabilizing agent in toluene taught in Dufresne because the liquid stabilizing agent stabilizes the incorporation of sulfur into the pores of the catalyst.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA STALDER whose telephone number is (571)270-5832. The examiner can normally be reached on Monday-Friday, 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MS

/Jennifer McNeil/  
Supervisory Patent Examiner, Art Unit 4162